UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,128	02/13/2007	Takayuki Kurozumi	5259-000064/US/NP	6251

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HARNESS, DICKEY & PIERCE, P.L.C.
P.O. BOX 828
BLOOMFIELD HILLS, MI 48303

EXAMINER
ALBERTALLI, BRIAN LOUIS

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2626	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/579,128	KUROZUMI ET AL.
	Examiner	Art Unit	
	BRIAN L. ALBERTALLI	2626	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.

2a) ☐ This action is **FINAL.** 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-36</u> is/are pending in the application.

    4a) Of the above claim(s) <u>20-29</u> is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-4 and 35</u> is/are rejected.

7) ☒ Claim(s) <u>5-20,30-34 and 36</u> is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All b) ☐ Some * c) ☐ None of:

      1. ☒ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1.   Claims 20-29 are withdrawn from further consideration pursuant to 37 CFR

1.142(b) as being drawn to a nonelected species, there being no allowable generic or

linking claim. Election was made **without** traverse in the reply filed on 17 March 2010.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

3.   Claim 35 is rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.

Claim 35 is drawn to a "program" *per se* as recited in the preamble and as such is

non-statutory subject matter. See MPEP § 2106.IV.B.1.a. Computer programs claimed

as computer listings *per se*, i.e., the descriptions or expressions of the programs are not

physical "things." They are neither computer components nor statutory processes, as

they are not "acts" being performed. Such claimed computer programs do not define

any structural and functional interrelationships between the computer program and

other claimed elements of a computer, which permit the computer program's

functionality to be realized.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5.   Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Wells et

al. (U.S. Patent 7,328,153).

In regard to claim 1, Wells et al. disclose a signal detection system (Fig. 16) that

searches for a part of a stored signal similar to a target signal, comprising:

a stored feature calculation portion that calculates a stored feature from the

stored signal (frequency domain features are extracted from a signal, column 11, lines

62-66);

a target feature calculation portion that calculates a target feature from the target

signal (target features are extracted in the same manner as the stored features, column

11, lines 62-66); and

a feature comparison portion that calculates a degree of similarity using both a

vector generated by degenerating the stored feature based on statistics of the stored

feature calculated beforehand and a vector generated by degenerating the target

feature based on statistics of the target feature calculated beforehand (the extracted

features of a stored signal and target signal are reduced to the least number of values

which best represent it ("degenerated"), using standard deviation power windows,
column 13, lines 37-55; once the final fingerprints representing the stored signal and the
target signal are determined, a comparison is made based on a measure of distance,
column 19, lines 37-48).

      In regard to claim 2, Wells et al. disclose a signal detection server that searches
for a part of a stored signal similar to a target signal input from a user terminal,
comprising:

      an user signal input portion that receives a target feature of the target signal from
the user terminal (Fig. 16, I/O 1604, column 30, lines 45-54; frequency domain features
are extracted from a signal, column 11, lines 62-66);

      a stored feature calculation portion that calculates a stored feature from the
stored signal (storage unit 1606, column 30, lines 47-54; target features are extracted in
the same manner as the stored features, column 11, lines 62-66); and

      a feature comparison portion that calculates a degree of similarity using both a
vector generated by degenerating the stored feature based on statistics of the stored
feature calculated beforehand and a vector generated by degenerating the target
feature based on statistics of the target feature calculated beforehand (processor 1602,
column 30, lines 45-54; the extracted features of a stored signal and target signal are
reduced to the least number of values which best represent it ("degenerated"), using
standard deviation power windows, column 13, lines 37-55; once the final fingerprints

representing the stored signal and the target signal are determined, a comparison is made based on a measure of distance, column 19, lines 37-48).

In regard to claim 3, Wells et al. disclose a signal detection method that searches for a part of a stored signal similar to a target signal, comprising steps of:

a target feature calculation step that calculates a target feature from the target signal (frequency domain features are extracted from a signal, column 11, lines 62-66);

a target statistics calculation step that calculates target statistics from the target feature (the extracted features of a target signal are reduced to the least number of values which best represent it ("degenerated"), using standard deviation power windows, column 13, lines 37-55); and

a feature comparison step that calculates a degree of similarity using both a vector generated by degenerating a stored feature based on statistics of the stored feature calculated beforehand and a vector generated by degenerating the target feature based on the target statistics (once the final fingerprints representing the stored signal and the target signal are determined, a comparison is made based on a measure of distance, column 19, lines 37-48).

In regard to claim 4, Wells et al. disclose a signal detection apparatus that searches for a part of a stored signal similar to a target signal, comprising:

a target feature calculation unit that calculates a target feature from the target signal (frequency domain features are extracted from a signal, column 11, lines 62-66);

a target statistics calculation unit that calculates target statistics from the target feature (the extracted features of a target signal are reduced to the least number of values which best represent it ("degenerated"), using standard deviation power windows, column 13, lines 37-55);

a stored statistics calculation unit that calculates stored statistics from a stored feature based on the stored signal (the extracted features of a stored signal are reduced to the least number of values which best represent it ("degenerated"), using standard deviation power windows, column 13, lines 37-55); and

a feature comparison unit that calculates a degree of similarity using both a vector generated by degenerating the stored feature based on the stored statistics and a vector generated by degenerating the target feature based on the target statistics (once the final fingerprints representing the stored signal and the target signal are determined, a comparison is made based on a measure of distance, column 19, lines 37-48).

Allowable Subject Matter

6.   Claims 5-19, 30-34, and 36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Dependent claims 5, 11, 12, 13, 18, 19, and 30 each require a comparison that calculates a degree of similarity between a target area selection feature and a comparison segment of a stored area selection feature, and repeats calculating while shifting the comparison segment one by one in the stored area selection feature and searches for an area of the stored area selection feature most similar to the target area selection feature. Wells et al. do not disclose or suggest a one by one shifting of the comparison segment to search for a stored area selection feature most similar to the target area selection feature. Nor is it readily apparent how one of ordinary skill in the art would modify Wells et al. to accommodate such a feature.

Claim 34 requires a target area selection nonlinear quantization step and a stored area selection nonlinear quantization step. Wells et al. do not disclose or suggest calculating an element of a selected target nonlinear quantized feature or calculating an element of a selected stored nonlinear quantized feature.

Conclusion

7.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Swierczek (U.S. Patent 6,941,275) discloses a music identification service. Wang et al. (U.S. Patent 6,990,453) disclose a method for extracting fingerprints in high noise for music identification. Holm et al. (U.S. Patent 7,487,180) disclose an audio fingerprinting system. Foote et al. (U.S. Patent Application Publication 2003/0205124) disclose a music identification system that relies on rhythmic similarity.

8.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to BRIAN L. ALBERTALLI whose telephone number is

(571)272-7616. The examiner can normally be reached on Monday-Thursday, 8 AM to

6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David Hudspeth can be reached on (571) 272-7843. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BLA 4/29/10
/Brian L Albertalli/
Primary Examiner, Art Unit 2626